

causing the plastic to be rolled rather than cut creating thereby a perforation of predetermined and selected geometry and dimension.

These and further objects of the present invention will become apparent to those skilled in the art to which this invention pertains and after a study of the present disclosure of the invention.

## **BRIEF DESCRIPTION OF THE DRAWINGS**

Fig. 1 is a schematic illustration of the invention showing multilayer fabric of varying deniers wrapped around corrugated pipe with a portion of the fabric cut-a-way thereby disclosing a plurality of dents or detents on the peaks of the pipe and disclosing a plurality of skimmer tabs/perforations in the valleys of the pipe;

Fig. 2 is a schematic illustration used only to disclose various geometries of dents or detents on the peaks of the pipe and further illustrating that the skimmer tabs/perforations in the valleys are substantially slots the long side may be radially or axially directed;

Fig. 3 is a top angled cut-off perspective view of a typical geometry of the specially configured corrugated pipe or conduit showing the details of the peaks and the valleys of the pipe detailing the relationship between the ridges, the channels between the ridges and the grooves having almost perpendicular side walls, showing also the skimmer tabs/perforations cut into the bottom of the grooves and the single or multiple layer fabric which is wrapped around the pipe when placed into the ground or leach field;

Fig. 4 is a radially directed cut-off cross section view of the pipe of Fig. 3 showing the skimmer tabs/perforations including the illustration of either single or multilayer fabric wrapped around the pipe;

Figs. 5B, 5C and 5D is a multi-view sketch of the perforator/skimmer tab former which is substantially rectangular in shape showing also the actuator system having actuator shaft and spring;

Fig. 5A is a perspective illustration of the perforator/skimmer tab former and each of the features of this embodiment of the tab former such as piercing and cutting 1st edge and 2nd cutting edges, the surface between the 2 cutting edges, the roll surface, the 4th edge or called the rolledge, and a slight v-shaped portion called the v-spreader along the 4th edge/rolledge; and

Fig. 6 is a schematic illustration of the invention showing the mold as disassembled into the first and the second mold halves and having a plurality of formers assembled thereto.

## **DESCRIPTION OF THE PREFERRED EMBODIMENTS**

The following is a description of the preferred embodiment of the invention. It is clear that there may be variations in the size and the shape of the pipe, in the materials used in the construction and in the orientation of the perforators, the molds, the manner of moving the

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Figs. 5B, 5C, 5D, 5A and 6 collectively schematically illustrate the actuatable perforator/skimmer tab former of the invention.

Figs. 5B, 5C, 5D is a multi-view sketch of the perforator/skimmer tab former which is substantially rectangular in shape. It shows a piercing and cutting 1st edge 21 and two 2nd cutting edges each identified as 22 which cut the plastic. The surface between the 2 cutting edges, the roll surface 23, causes the cut plastic to be pushed or rolled inwardly along the 4th edge or called also the rolledge 26 which 4th edge 26 acts to create hinge edge 16 the cut plastic portion which thereby becomes the so-called skimmer tab. There is a slight v-shaped portion called the v-spreader 25 along the 4th edge/rolledge 26 which tends to "spread" the plastic material in the hinge 16 or attached portion. This slight spreading of the material causes the skimmer tab 14 to stay in position within the pipe 8 or 8A or 8B and relative to the aperture 12 and not tend to move back toward the aperture 12 from which the tab 14 was formed. There is also shown the pipe skimmer actuator system 31. Actuator system 31 is designed having tab formers 20 attached to one end of actuator shaft 34 which is compressed by spring 32 and thereby providing adequate force to cause perforation of the pipe surface and creation of apertures 12.

Fig. 5A is simply a perspective illustration of the perforator/skimmer tab former 20 and each of the features of this form of the tab former

Fig. 6 is a simple schematic illustration, which is fully understood by the ordinarily skilled person who works in the related fields of the invention showing the conduit/pipe forming mold 30 as disassembled into the first and the second mold halves 30A and 30B and respectively and having a plurality of pipe skimmer actuator system 31 which include perforators/skimmer tab formers 20, actuator shafts 34, spring 32 is around shaft 34 which provide controlled pressure and force to skimmer tab former 20 attached thereto. The actuator shaft 34 attached to the skimmer tab 20 and is configured onto mold 30 and positioned to create the pipe aperture skimmer 10 when pressure and force is provided to the shaft 34 or pipe skimmer actuator system.

Additionally, as noted above, the present invention ideally works in conjunction with other inventions of the present inventor as disclosed for example in issued US Patents 5,954,451 and 6,461,078 which are incorporated herein by reference in their entirety. Thus, the present invention also provides an apparatus for use within a drainage field, which drainage field may be in combination with disposal and irrigation systems used in treatment of fluids and dispersal of fluids, and provides methods and devices for quickly and economically perforating any type of conduit for use in any application that benefits from perforated conduit.

It is thought that the present invention, the method, apparatus and actuatable